

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously presented) A method of making a cathode for a primary lithium battery comprising:
pulling an expanded metal grid including aluminum and having an initial tensile strength, the expanded metal grid having a long dimension and a short dimension and having an array of diamond-shaped openings, the pulling increasing the short dimension and increasing the tensile strength to greater than 5 lb/in; and
coating the expanded metal grid with a composition including a cathode active material.
2. (Original) The method of claim 1, wherein the composition is a slurry.
3. (Original) The method of claim 1, wherein the cathode active material includes a manganese dioxide, a CF_x , iron disulfide, or a vanadate.
4. (Original) The method of claim 1, wherein the composition includes a carbon source.
5. (Original) The method of claim 4, wherein the carbon source includes a carbon fiber, a graphite, an acetylenic carbon, or a combination thereof.
6. (Original) The method of claim 1, wherein the composition includes a binder.
7. (Original) The method of claim 6, wherein the binder includes an organic polymer.

8. (Original) The method of claim 1, wherein the grid includes a 1000 series aluminum, a 2000 series aluminum alloy, a 3000 series aluminum alloy, a 5000 series aluminum alloy, a 6000 series aluminum alloy, or a 7000 series aluminum alloy.

9. (Original) The method of claim 1, wherein the grid includes a 6000 series aluminum alloy.

10. (Original) The method of claim 1, wherein the grid includes an aluminum alloy including 0-0.4% by weight of chromium.

11. (Original) The method of claim 1, wherein the grid includes an aluminum alloy including 0.01-6.8% by weight of copper.

12. (Original) The method of claim 1, wherein the grid includes an aluminum alloy including 0.05-1.3% by weight of iron.

13. (Original) The method of claim 1, wherein the grid includes an aluminum alloy including 0.1-7% by weight of magnesium.

14. (Original) The method of claim 1, wherein the grid includes an aluminum alloy including 0-2% by weight of manganese.

15. (Original) The method of claim 1, wherein the grid includes an aluminum alloy including 0-2% by weight of silicon.

16. (Original) The method of claim 1, wherein the grid includes an aluminum alloy including less than 0.25% by weight of titanium.

17. (Previously presented) The method of claim 1, wherein the grid includes an aluminum alloy including 0-8.2% by weight of zinc.

18. (Original) The method of claim 1, wherein the grid includes an aluminum alloy including 0-2.3% by weight of nickel.

19. (Original) The method of claim 1, wherein the grid has a resistivity of less than 100 m Ω /cm.

20. (Original) The method of claim 1, wherein the grid has a resistivity of less than 10 m Ω /cm.

21. (Cancelled)

22. (Previously presented) The method of claim 1, further comprising leveling the grid before coating by passing the grid between rollers.

23. (Original) The method of claim 1, further comprising drying the grid after coating.

24. (Original) The method of claim 23, further comprising calendering the grid after drying.

25. (Previously presented) The method of claim 24, wherein calendering includes passing the grid through a gap having a thickness of less than 25 mils.

26. (Cancelled)

27. (Original) The method of claim 26, further comprising heat treating the grid after calendering.

28. (Original) The method of claim 27, further comprising drying the grid under vacuum after heat treating.

29. (Original) The method of claim 9, wherein the composition is a slurry.

30. (Original) The method of claim 9, wherein the cathode active material includes a manganese dioxide, a CF_x , iron disulfide, or a vanadate.

31. (Original) The method of claim 9, wherein the composition includes a carbon source.

32. (Original) The method of claim 31, wherein the carbon source includes a carbon fiber, a graphite, an acetylenic carbon, or a combination thereof.

33. (Original) The method of claim 9, wherein the composition includes a binder.

34. (Original) The method of claim 31, wherein the binder includes an organic polymer.

35. (Cancelled)

36. (Currently amended) The method of claim 9, further comprising leveling the grid before coating by passing the grid between rollers.

37. (Original) The method of claim 9, further comprising drying the grid after coating.

38. (Original) The method of claim 37, further comprising calendaring the grid after drying.

39. (Previously presented) The method of claim 38, wherein calendaring includes passing the grid through a gap having a thickness of less than 25 mils.

40. (Cancelled)

41. (Previously presented) A method of making a cathode for a battery comprising:
pulling an expanded metal grid including aluminum and having an initial tensile strength, the expanded metal grid having a long dimension and a short dimension and having an array of diamond-shaped openings, the pulling increasing the short dimension and increasing the tensile strength to greater than 5 lb/in;
coating the expanded metal grid with a composition including a carbon source, a binder, and a cathode active material, wherein the cathode active material includes a manganese dioxide;
calendering the grid after coating; and
heat treating the grid after calendering.

42. (Original) The method of claim 41, wherein calendering includes passing the grid through a gap.

43. (Original) The method of claim 42, wherein the gap has a thickness of less than 25 mils.

44. (Original) The method of claim 43, further comprising drying the grid after coating and before calendering.

45. (Original) The method of claim 41, further comprising sizing the grid after calendering.

46. (Original) The method of claim 41, further comprising edge-cleaning the grid after calendering.

47. (Original) The method of claim 41, further comprising drying the grid under vacuum after heat treating.

48. (Original) The method of claim 41, wherein the aluminum alloy is a 2000 series aluminum alloy, a 3000 series aluminum alloy, a 5000 series aluminum alloy, a 6000 series aluminum alloy, or a 7000 series aluminum alloy.

49. (Original) The method of claim 41, wherein the aluminum alloy is a 6000 series aluminum alloy.

50. (Original) The method of claim 41, wherein the aluminum alloy including 0-0.4% by weight of chromium, 0.01-6.8% by weight of copper, 0.05-1.3% by weight of iron, 0.1-7% by weight of magnesium, 0-2% by weight of manganese, 0-2% by weight of silicon, less than 0.25% by weight of titanium, 0-2.3% by weight of nickel, and 0-8.2% by weight of zinc.

51. (Cancelled)

52. (Original) The method of claim 41, wherein the binder includes an organic polymer.

53. (Original) The method of claim 52, wherein the binder includes poly(tetrafluoroethylene), poly(vinylalcohol), or a combination thereof.

54. (Original) The method of claim 41, wherein the carbon source includes a carbon fiber, a graphite, an acetylenic carbon, or a combination thereof.

55. (Original) The method of claim 41, wherein the grid has a resistivity of less than 100 m Ω /cm.

56. (Original) The method of claim 41, wherein the grid has a resistivity of less than 10 m Ω /cm.

57. (Previously presented) A method of making a cathode for a battery comprising:

pulling an expanded metal grid including aluminum and an initial tensile strength, the expanded metal grid having a long dimension and a short dimension and having an array of diamond-shaped openings, the pulling increasing the short dimension and increasing the tensile strength to greater than 5 lb/in;

coating the expanded metal grid with a composition including a carbon source, a binder, and a cathode active material, wherein the cathode active material includes a manganese dioxide;

drying the grid after coating;

calendering the grid to a thickness of less than 20 mils after drying;

sizing the grid after calendering;

edge-cleaning the grid after sizing;

heat treating the grid after edge-cleaning; and

drying the grid under vacuum after heat treating the grid.

58. (Previously presented) The method of claim 1, wherein the long dimension and the short dimension have a ratio of from about 51:100 to about 72:80.

59. (Previously presented) The method of claim 1, wherein the coating expanded metal grid comprises immersing the metal grid in the composition including the cathode active material.

60. (Previously presented) The method of claim 1, further comprising removing an excess composition by passing the coated metal grid between blades held at a fixed gap.